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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/586,090	10/18/2006	Casper Kildegaard	502424.117543	1159
29540	7590	02/19/2010		
DAY PITNEY LLP 7 TIMES SQUARE NEW YORK, NY 10036-7311			EXAMINER YOUNGER, SEAN JERRARD	
			ART UNIT 3745	PAPER NUMBER
			NOTIFICATION DATE 02/19/2010	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/586,090	Applicant(s) KILDEGAARD, CASPER	
	Examiner SEAN J. YOUNGER	Art Unit 3745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 January 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 December 2009 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings were received on 1 December 2009. These drawings are acceptable.

Response to Arguments

2. Applicant's arguments filed 1 December 2009 have been fully considered but they are not persuasive.
3. In response to Applicant's argument that the position measurement disclosed by Rebsdorf is indirect, resulting in a theoretical value for the position of interest, the examiner respectfully disagrees. Firstly, the Applicant states at page 8 of the remarks that strain gauges measure mechanical loads based on the curvature of the strain gauge. This is not entirely correct. Strain is a measure of a change in length *as a result of* a mechanical load (stress) compared to an original length (i.e. the strain measurement is not a measurement of the load or stress). Thus, in order to know the strain, the *position* of the ends of the strain gauge (predefined points) must be known and the changes in position tracked and compared to their original positions—a comparison of a measured position to a predefined reference position. Therefore, the strain gauge as employed by Rebsdorf can indeed directly indicate the position of the strain gauge.

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4. In response to Applicant's argument that the substitution of equivalent elements rationale used in the section 103 rejections is improper, the examiner respectfully disagrees. Firstly, it was not the examiner's position that a strain gauge is the same thing as a GPS sensor--clearly they are not the same. However, a strain gauge *used as a position sensor*, as taught by Rebsdorf is equivalent to another type of position sensor. One type of position sensor is a functional equivalent of a second type of position sensor, even though the first type may be materially or operationally different from the second type. A substitution of one equivalent element for another is most definitely obvious when both types of element are known.

5. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In this case, Roberts does not need to teach a method of determining the precise location of a specific point on wind turbine blades because this is taught by Rebsdorf.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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7. Claims 1-3, 5, 7, 8 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Rebsdorf [U.S. 6,619,918]. Regarding claims 1, 2 and 10, Rebsdorf discloses a blade for a wind energy plant and a method of monitoring the operation of a wind energy plant, wherein monitoring comprises collection of blade related operational data. In at least one predefined point on the blade, a position indicator (strain gauge, 7) is arranged that can be used in a positioning system for identifying the position of the position indicator. The position of the position indicator and the predefined point (strain gauge location) are directly determined and collected as a part of the blade related operational data. Rebsdorf's method is used in a control and regulation algorithm for controlling the wind energy plant [column 4, lines 24-39].

8. Regarding claim 3, Rebsdorf discloses that the position of the at least one predefined point (strain gauge location) is used for determining material stresses in the blade by determining the flexing in the blade. The method comprises the steps of: comparing the collected position of the predefined point (strain gauge location) to a predefined reference position of that point (unstressed strain gauge location), and based on comparison of a collected position to the reference position (strain measurement), determination of the flexing and hence the material stress on the basis of deviations between the collected position and the reference position [column 2, lines 50-53].

9. Regarding claim 7, Rebsdorf discloses a system for monitoring the operation of a wind energy plant, wherein the system comprises means for collecting blade related operational data. In at least one predefined point on the blade, a position indicator

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(strain gauge, 7) is arranged that can be used in a positioning system for identifying the position of the position indicator. Rebsdorf's data collection means includes means for collecting the position of the position indicator and the position of the predefined point (strain gauge location).

10. Regarding claims 5 and 8, the positions of Rebsdorf's reference points (unstressed strain gauge location) are known, and the positions of the predefined point (strain gauge location) on the blade are determined by use of the distance from the reference points to the position indicator (strain gauge, 7) arranged in the predefined point.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rebsdorf [U.S. 6,619,918]. Rebsdorf discloses all elements substantially as claimed, but fails to disclose that the state of the plant in a reference situation, specifically that the reference situation is defined when the wind energy plant is in operation. The choosing of the state of the plant for the reference point is considered to be an engineering expedient. One of ordinary skill would be able to make the choice of a baseline measurement, with a plant in normal operation being one of the more obvious choices to try from a finite

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number of standard operating conditions. Therefore, defining the reference situation to be when the wind energy plant is in operation would have been obvious to one having ordinary skill in the art at the time the invention was made, as an engineering expedient.

13. Claims 6, 9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rebsdorf [U.S. 6,619,918] in view of Roberts et al. [U.S. 2003/0006615].

14. Regarding claims 9 and 11, Rebsdorf discloses all elements substantially as claimed, but fails to disclose that the positioning system is GPS and that the position indicators are GPS receivers. Roberts et al. teach the use of GPS sensors as a means of location for a wind-driven generator [paragraph 47]. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the wind energy plant system and blades of Rebsdorf to use GPS sensors as position sensors, as taught by Roberts et al., in order to monitor the position of the blades because the modification amounts to a simple substitution of known, equivalent elements for tracking position which could be made by one of ordinary skill with predictable results.

15. Regarding claim 6, Rebsdorf discloses all elements substantially as claimed, but fails to disclose that the position of the at least one predefined point of the blade further comprises use of the position of the wind energy plant. Roberts et al. teach that GPS sensors can be used to locate the position of wind-driven generators [paragraph 47]. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the method of Rebsdorf to include a position

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measurement of the wind energy plant as a whole, as taught by Roberts et al., in order to more accurately determine the desired positions of the predetermined points of the blade.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SEAN J. YOUNGER whose telephone number is (571)270-3763. The examiner can normally be reached on M-F 7:30-5:00 EST, Alt. Fri off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Look can be reached on 571-272-4820. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/Sean J. Younger/

Examiner, Art Unit 3745

/Edward K. Look/

Supervisory Patent Examiner, Art Unit 3745